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Tracheostomy in a patient with SARS

Editor—I read this case report¹ with interest, and found myself somewhat confused by the information presented. Many of us will have followed the outbreak of severe acute respiratory syndrome (SARS) with interest and had serious concerns about the processes of infection control that were raised. I therefore found a number of the statements made in this case report to be out of keeping with the management principles that have been discussed in many places in the medical literature.

First, in the discussion section, the authors state, in line with currently accepted knowledge, that a coronavirus is the likely primary infective agent in this disease. In the case report section, they discuss how they administered a number of antiviral agents, antibiotics and steroids. One cannot criticise this aspect of care, as at the time nobody knew exactly what they were treating. However, in the discussion section, they state that the main

treatment for SARS consists of antibacterial agents, ribavirin and methylprednisolone. None of these agents has been shown to be of any benefit in treating this infection. Antibacterial agents should be reserved for proven secondary bacterial infection, ribavirin has no activity against coronavirus, and methylprednisolone only augments the risk of secondary infection. The mainstay of treatment until a suitable anticoronavirus drug is developed is therefore supportive.

Later they go on to state that non-invasive ventilation may become necessary for treating respiratory failure. However, they then state that aerosol-generating procedures may facilitate transmission of the virus. Non-invasive ventilation is therefore surely contraindicated.

Finally, I am somewhat bemused at their decision to transport this potentially highly infectious patient from his ICU bed to an operating theatre for his tracheostomy to be performed. Was this patient nursed in a negative-pressure cubicle in the ICU? If so, why take the risk of moving him out of his room to the operating theatre to perform a procedure that could just as easily have been carried out at the bedside? Whether this patient could have successfully undergone percutaneous tracheostomy is not clear from the case report, but there are no contraindications given. Failing them, it is a perfectly acceptable technique to perform a surgical tracheostomy at the bedside, thus obviating the need to move the patient. Providing the same vigour is applied to infection control, as they outline in the discussion, there should be no greater risk from a percutaneous procedure than a surgical procedure. If anything, one might reasonably expect less risk as there is less bleeding and a much smaller incision using a percutaneous technique, and the operative time can be 5 min or less in skilled hands.

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Editor—We are grateful to Dr Morgan for his interest in our case report,¹ and in particular for raising questions on the treatment of SARS and the use of percutaneous tracheostomy.

At the time, when little was known regarding the best treatment for SARS, our patient received antiviral agents, antibiotics and steroids for his illness. With experience and more updated knowledge on the treatment of SARS, it now seems that the mainstay of treatment, as suggested by Dr Morgan, is supportive.² Non-invasive positive pressure ventilation has been used for treatment with some success in a small number of SARS patients with respiratory failure.³ However, the therapy should be carried out only if the patient is nursed in an isolated room with negative pressure, and the attending health care workers are adequately protected with personal protective equipment (gown, boots, gloves, cap, N95-100 face mask, eye shield or goggles, and/or Airmate).

The reason to take the patient to the operating theatre for surgical tracheostomy is that, at the time the operation was performed, our ICU had no negative pressure cubicle. Subsequently, negative pressure rooms were constructed in our ICU for care of patients of high infectious risk. Although percutaneous tracheostomy was an option, our intensivists, who were physicians, were not experienced in the procedure. After lengthy discussion among surgeons, intensivists, and anaesthetists, it was decided that a surgical tracheostomy was a more familiar procedure to us and it was best performed in our familiar operating theatre environment. We cannot agree more that transport poses significant risk to patients and staff, but we were more comfortable with our negative pressure operating theatre where support was easily available. Some patients in other intensive care units in Hong Kong did have percutaneous instead of surgical tracheostomies performed. The negative pressure

rooms in those ICUs are small and noisy. Together with the extremely bulky personal protective equipment and restricted vision from the goggles and/or face shield, this seemingly simple procedure may be more difficult and time consuming than anticipated.

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